sensors. The very essence of the electronic nose is that the combination of several specificity classes has a very large information content.--

Please replace the paragraph beginning at page 1, line 22, with the following rewritten paragraph:

--Similar concepts, denoted "taste sensors", have also been described. Thus, a LAPS (light addressable potentiometric sensor) with artificial lipid membranes as ion selective material has been described (Ref 4), as well as taste systems, based on a fiberoptic sensor array using potential sensitive dyes (Ref 5) or on a surface photovoltage technique applied to Langmuir-Blodgett films (Ref 6).--

Please replace the paragraph beginning at page 1, line 32, with the following rewritten paragraph:

--A common feature for these electronic tongues or taste sensors described, is that the sensing principle is based solely on potentiometry, the charging of a membrane being measured. This will limit the area of detectable compounds to ions or other charged species.--

Please replace the paragraph beginning at page 2, line 4, with the following rewritten paragraph:

--Thus, these known taste sensors are not sufficiently discriminating to allow, for instance, for quality monitoring in e.g. food processes. The variation in the response to different parameters is not sufficient and despite the use of pattern recognition methods as known from the electronic nose technique the resulting patterns are not separable with sufficient precision.--

Please replace the paragraph beginning at page 2, line 10, with the following rewritten paragraph:

--Furthermore, potentiometric measurements per se are sensitive to electronic noise, putting high demands on the electronics and measurement set-up.--

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Please replace the paragraph beginning at page 2, line 13, with the following rewritten paragraph:

--In view of the above mentioned problems encountered with known taste sensors or electronic tongues, the object of the invention is to improve the pattern response to variations in tested substances. This object is achieved by a generation of transients by applying electrical pulses to electrodes in contact with the substance to be investigated. For instance, voltage pulses may be applied and the current monitored. Transients will appear at the front and at the rear of the measured current pulse. The transients or some part thereof is then registered and used for comparison purposes, either with measurements at preceding pulses to control continuity in, for instance, a production process or for comparison of what we could call a library of previously registered values for substance detection purposes. For the purpose of simplicity we have in the following mainly discussed the initial transient, however, the pulse end transient can be used in a similar manner and at times it may perhaps be of advantage to use measured values from both transients.--

Please replace the paragraph beginning at page 2, line 26, with the following rewritten paragraph:

--Normally, in voltammetry for instance, the very first moments when electricity is applied to the electrode is not considered at all and one normally waits for the more steady state and thus more easily predictable conditions that follow. For the invention which may be employed to give an electronic tongue, it has, however, been found that the initial signal transient response obtained when electricity is applied will vary significantly when the tested substances vary and thus the pattern will also vary with different voltages, pulse wave forms and frequencies.--

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Please replace the paragraph beginning at page 3, line 1, with the following rewritten paragraph:

--Contrary to known measuring techniques, the initial transients are recorded instead of the later stabilized conditions. The great variation obtained is however of great advantage in the invention (for instance an electronic) tongue where the important thing is to achieve as different patterns as possible for small changes in test substances. Whether the changes in signal response are predictable in a calculable sense of the word or not are however without interest provided that a given change results in the same recognition pattern change every time, which it does. The normal disadvantage can thus be considered as an advantage of the invention.--

Please replace the paragraph beginning at page 3, line 10, with the following rewritten paragraph:

--The use of the transients for recognition (analysis) or monitoring can be done in many different ways. The entire transient curve can be recorded and processed or the values at specific times from pulse onset may be used. These values can then be treated by multivariate methods to gain the desired information or control parameters. If these are few, only a few significant measured transient values may suffice either consisting of perhaps as little as one value taken after pulse onset but before the peak value, of the peak value only or of a value taken very shortly after the peak, within, for instance ,90% or preferably 95% of the peak value. Of course, combinations of these can be considered.--

Please replace the paragraph beginning at page 3, line 19, with the following rewritten paragraph:

--In particular, when the transient measurements are used together with multivariate methods, the resolution or precision may be enhanced by, for instance, varying the pulse amplitude, for instance the voltage at voltammetry. Due to the difference in electric field

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strength, the present substances will react, in particular move, with differing agility depending on size, binding to other substances, etc.--

Please replace the paragraph beginning at page 5, line 16, with the following rewritten paragraph:

--Since the pulses may be short, the influence of the measuring on the tested substance may become negligible, also the shape and size of the electrodes may be chosen more freely. For instance, the electrodes may have a larger size than normal, thus increasing the signal response and an integration over a larger area or volume of the measured substance, diminishing the risk of undesired substance variation influence. Also, the short pulses allow rapid testing or monitoring as well as the collection of responses from a great number of pulses with different voltages.--

Please replace the paragraph beginning at page 6, line 12, with the following rewritten paragraph:

--When using pulsed voltammetry, information can also be obtained from AC current versus frequency curves at various potentials. The potential may vary around zero (fig 4) or be superimposed on another arbitrary static or dynamic potential curve (fig 6).--

Please replace the paragraph beginning at page 6, line 16, with the following rewritten paragraph:

--In continuous voltammetry, the current depends on the diffusion rate of electroactive species to the working electrode. If the stirring rate in the measurement cell is changed, also the electrode current is changed. One way to overcome this is to use microelectrodes, due to favourable diffusion profiles, and another way is to use pulse voltammetry, conductometry, effect or energy measurements.--

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Please replace the paragraph beginning at page 6, line 22, with the following rewritten paragraph:

--Pulse voltammetry also enables the use of macroelectrodes that can be cleaned by rather harsh methods, which often is necessary to get clean electrode surfaces. Microelectrodes are much more fragile.--

Please replace the paragraph beginning at page 6, line 26, with the following rewritten paragraph:

--The invention also deals with the aspect of influencing the measured solution at one position and to make measurement at another position, so close that measurement will be affected. This means that compounds generated at one electrode are detected (together with other compounds in the solution) by the other electrode. Since both electrodes may be operated at different potentials and pulse conditions, a very large but also very complicated information concerning the measured solution may be obtained increasing the possible variations in the transients and thus provide a big base for the pattern recognition. In case of streaming or flowing liquids being tested, influencing electrodes or materials as, for instance, catalytic materials, can be placed upstream of some electrodes to change the composition before it is tested by other electrodes.--

Please replace the paragraph beginning at page 7, line 5, with the following rewritten paragraph:

--Further developments of the invention are apparent from the following description of experimental tests of the invented method. The description refers to the appended drawings showing:--

Please replace the paragraph beginning at page 7, line 19, with the following rewritten paragraph:

--Figure 5 A typical recording from SAPV, also showing the position of measurement points. Pulse time and time between pulses are also indicated; and--

Please replace the paragraph beginning at page 10, line 5, with the following rewritten paragraph:

--A further development of the concept is also to use other metals as working electrodes, such as palladium, rhodium, and iridium or in some other way change the electrode properties by e.g. surface modifications, use of alloys, etc. Furthermore, electrodes and setups may be used where the measuring electrodes or special electrodes influence the tested liquid. The invention is not limited to liquid matter since solid matters can be tasted by wetting and then testing.--

Please replace the paragraph beginning at page 10, line 12, with the following rewritten paragraph:

--In a practical embodiment of the invention, a tasting cell can be a part of a simple pump, for instance, a rotary vane pump. The electrodes may be arranged in a wall of the pump body, the axial wall or the peripheral wall. The vane is preferably provided with a brush part that serves as some sort of a seal against the wall. The brush will, of course, not provide a watertight seal, but since this pump is not intended to give pressure, this is not important. What is important is, however, that the electrodes will be continuously swept clean by the brush. Also, the pump or tasting cell will be extremely insensitive to larger particles. Actually, the vane may be constituted entirely of a brush-like structure. Alternatively, the vane may be a rubber blade pretensioned against the wall of the cell.--

Please replace the paragraph beginning at page 11, line 8, with the following rewritten paragraph:

--In the case with a screw-like brush element centrally in the taste cell, the center of the brush element may constitute an auxiliary or reference electrode with the working electrodes on

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the cylinder wall. The electrodes on the wall may be constituted by circles rendering them rather insensitive to variations in the measured sample. Also, this makes it possible to fabricate a very rugged cell boy in a simple way by simply arranging alternating cylindrical conductive and insulating rings on top of each other. The electrodes may instead have an axial extension.--

Please replace the paragraph beginning at page ~~11~~, line 16, with the following rewritten paragraph:

--Preferably, the feeding speed of the pump is kept contact at each test and in the tests that are to be comparable.--

Please replace the paragraph beginning at page 11, line 19, with the following rewritten paragraph:

--If the electrode is not continuous around a rotor, measuring deviation may occur when the brush passes and shields the electrode. By synchronizing the rotation with the pulse frequency, this effect can be made invisible.--

IN THE CLAIMS:

Kindly cancel claims 1 and 6-20, without prejudice.

Please add new claims 21-38, reading as follows:

--21. An electrochemical measuring method in which electrical pulses of a first electrical entity are applied to electrodes in contact with a substance to be investigated and a response of a second electrical entity is measured, wherein transients or parts thereof in response are recorded or measured and then evaluated by multivariate methods, the transients being parts of a response between equilibrium parts of the response.

22. The method according to claim 21, wherein said first electrical entity comprises current, voltage, energy or conductivity.

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